

Appl. No. 10/626,976
Attorney Docket No.: 2002B105A
Amdt. dated December 12, 2005
Reply to OA of September 12, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in this application.

Listing of Claims:

1. (Currently amended) A polymer composition, comprising:
 - (a) a copolymer comprising polymerized ethylene monomer and C₃ to C₁₂ alpha-olefin comonomer, the copolymer having a CDBI of at least 70%, a melt index I_{2.16} of from 0.1 to 15 g/10 min, a density of from 0.910 to 0.940 g/cm³, a melt index ratio I_{21.6}/I_{2.16} of from 30 to 80, and an Mw/Mn ratio of from 2.5 to 5.5;
[and]
 - (b) a silane grafting composition comprising a silane compound and a free radical initiator, the silane compound comprising an unsaturated group and a hydrolyzable group; and
 - (c) a silanol condensation catalyst;
or reaction products thereof.
2. (Original) The polymer composition of claim 1, wherein the alpha-olefin comonomer comprises 1-butene, 1-hexene or 1-octene.
3. (Original) The polymer composition of claim 1, wherein the CDBI of the ethylene copolymer is at least 75%.
4. (Original) The polymer composition of claim 1, wherein the CDBI of the ethylene copolymer is at least 80%.
5. (Original) The polymer composition of claim 1, wherein the melt index of the ethylene copolymer is from 0.3 to 10 g/10 min.
6. (Original) The polymer composition of claim 1, wherein the density of the ethylene copolymer is from 0.916 to 0.935 g/cm³.

Appl. No. 10/626,976
Attorney Docket No.: 2002B105A
Amdt. dated December 12, 2005
Reply to OA of September 12, 2005

7. (Original) The polymer composition of claim 1, wherein the melt index ratio $I_{21.6}/I_{2.16}$ of the ethylene copolymer is from 35 to 80.
8. (Original) The polymer composition of claim 1, wherein the Mw/Mn ratio is from 2.8 to 4.5.
9. (Original) The polymer composition of claim 1, wherein the unsaturated group of the silane compound comprises a vinyl, allyl, isopropenyl, butenyl, cyclohexenyl, or γ -(meth)acryloxy allyl group.
10. (Original) The polymer composition of claim 1, wherein the hydrolyzable group of the silane compound comprises a hydrocarbyloxy, hydrocarbonyloxy or hydrocarbylamino group.
11. (Original) The polymer composition of claim 1, wherein the silane compound is a vinyl trialkoxysilane and the free radical initiator is an organic peroxide.
12. Cancelled.
13. (Original) The polymer composition of claim 1, wherein the composition has a hot set value after 2 hours curing in 80°C water of 70% or less.
14. (Original) The polymer composition of claim 1, wherein the composition has a hot set value after 30 days of 50% or less.
15. (Withdrawn) A silane crosslinked polymer composition, comprising the reaction product of:
 - (a) a copolymer comprising polymerized ethylene monomer and C₃ to C₁₂ alpha-olefin comonomer, the copolymer having a CDBI of at least 70%, a melt index $I_{2.16}$ of from 0.1 to 15 g/10 min, a density of from 0.910 to 0.940 g/cm³, a melt index ratio $I_{21.6}/I_{2.16}$ of from 30 to 80, and an Mw/Mn ratio of from 2.5 to 5.5;

Appl. No. 10/626,976
Attorney Docket No.: 2002B105A
Amdt. dated December 12, 2005
Reply to OA of September 12, 2005

- (b) a silane grafting composition comprising a silane compound and a free radical initiator, the silane compound comprising an unsaturated group and a hydrolyzable group; and
 - (c) a silanol condensation catalyst.
16. (Withdrawn) The polymer composition of claim 15, wherein the alpha-olefin comonomer comprises 1-butene, 1-hexene or 1-octene.
17. (Withdrawn) The polymer composition of claim 15, wherein the CDBI of the ethylene copolymer is at least 75%.
18. (Withdrawn) The polymer composition of claim 15, wherein the CDBI of the ethylene copolymer is at least 80%.
19. (Withdrawn) The polymer composition of claim 15, wherein the melt index of the ethylene copolymer is from 0.3 to 10 g/10 min.
20. (Withdrawn) The polymer composition of claim 15, wherein the density of the ethylene copolymer is from 0.916 to 0.935 g/cm³.
21. (Withdrawn) The polymer composition of claim 15, wherein the melt index ratio $I_{21.6}/I_{2.16}$ of the ethylene copolymer is from 35 to 80.
22. (Withdrawn) The polymer composition of claim 15, wherein the Mw/Mn ratio is from 2.8 to 4.5.
23. (Withdrawn) The polymer composition of claim 15, wherein the unsaturated group of the silane compound comprises a vinyl, allyl, isopropenyl, butenyl, cyclohexenyl, or γ -(meth)acryloxy allyl group.
24. (Withdrawn) The polymer composition of claim 15, wherein the hydrolyzable group of the silane compound comprises a hydrocarbyloxy, hydrocarbonyloxy or hydrocarbylamino group.

Appl. No. 10/626,976
Attorney Docket No.: 2002B105A
Amdt. dated December 12, 2005
Reply to OA of September 12, 2005

25. (Withdrawn) The polymer composition of claim 15, wherein the silane compound is a vinyl trialkoxysilane and the free radical initiator is an organic peroxide.
26. (Withdrawn) An electrical device comprising the polymer composition of any of claims 1 to 25.
27. (Withdrawn) An electrical device comprising:
- (a) an electrical conductor; and
 - (b) a layer surrounding at least a portion of the electrical conductor, the layer comprising the reaction product of:
 - (i) a copolymer comprising polymerized ethylene monomer and C_3 to C_{12} alpha-olefin comonomer, the copolymer having a CDBI of at least 70%, a melt index $I_{2.16}$ of from 0.1 to 15 g/10 min, a density of from 0.910 to 0.940 g/cm³, a melt index ratio $I_{21.6}/I_{2.16}$ of from 30 to 80, and an Mw/Mn ratio of from 2.5 to 5.5; and
 - (ii) a silane grafting composition comprising a silane compound and a free radical initiator, the silane compound comprising an unsaturated group and a hydrolyzable group; and
 - (iii) a silanol condensation catalyst.
28. (Withdrawn) The electrical device of claim 27, wherein the layer surrounding at least a portion of the conductor is an insulating layer.
29. (Withdrawn) The electrical device of claim 27, wherein the layer surrounding at least a portion of the conductor is a semiconducting layer.
30. (Withdrawn) The electrical device of claim 27, wherein the layer surrounding at least a portion of the conductor is an outer jacket layer.
31. (Withdrawn) The electrical device of any of claims 27-30, wherein the device is a power cable adapted to transport electricity at a voltage potential of less than or equal to 66 kV.

Appl. No. 10/626,976
Attorney Docket No.: 2002B105A
Amdt. dated December 12, 2005
Reply to OA of September 12, 2005

32. (Withdrawn) The electrical device of any of claims 27-30, wherein the device is a power cable adapted to transport electricity at a voltage potential of less than or equal to 35 kV.
33. (Withdrawn) The electrical device of any of claims 27-30, wherein the device is a power cable adapted to transport electricity at a voltage potential of less than or equal to 6 kV.
34. (Withdrawn) The electrical device of any of claims 27-30, wherein the device is a power cable adapted to transport electricity at a voltage potential of less than or equal to 1 kV.
35. (Withdrawn) The electrical device of any of claims 27-30, wherein the device is a telecommunications cable.
36. (Withdrawn) The electrical device of any of claims 27-30, wherein the device is a combined power/telecommunications cable.